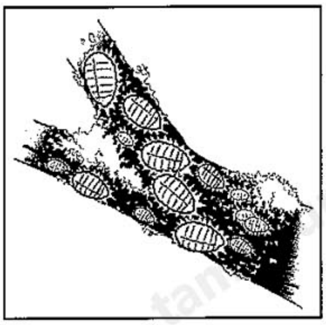
අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

| | | |
|---|---|---|
| කෘෂි විද්‍යාව I<br>விவசாய விஞ்ஞானம் I<br>**Agricultural Science I** | **08 E I** | පැය දෙකයි<br>இரண்டு மணித்தியாலம்<br>*Two hours* |

**Instructions:**

* *Answer **all** the questions.*
* *Write your **Index Number** in the space provided in the answer sheet.*
* *Instructions are given on the back of the answer sheet. Follow those carefully.*
* *In each of the questions **1** to **50**, pick one of the alternatives from (1), (2), (3), (4), (5) which is **correct** or **most appropriate** and **mark your response on the answer sheet with a cross** (×) on the number of the correct option in accordance with the instructions given on the back of the answer sheet.*

● Use the following diagram to answer question number **01.**



**1.** The pest found in the above diagram can be identified as,
(1) thrips. (2) aphids. (3) white flies.
(4) mealy bugs. (5) plant hoppers.

**2.** Compound layering is most suitable for
(1) croton. (2) lemon. (3) jasmine. (4) begonia. (5) strawberry.

**3.** An activity comes under inter-cultivation practices would be,
(1) burning. (2) weeding.
(3) deep plowing. (4) levelling soil surface.
(5) chopping and incorporating crop residues into the field.

**4.** In agricultural lands,
(1) primary tillage is done before the land clearing.
(2) secondary tillage is done after crop establishment.
(3) seed bed preparation is done in between primary and secondary tillage.
(4) both primary and secondary tillage are done before the crop establishment.
(5) both secondary tillage and inter-cultivation are done after the crop establishment.

**5.** Tetrazolium test is done to determine seed
(1) purity. (2) viability. (3) dormancy.
(4) germination. (5) moisture content.

[See page two

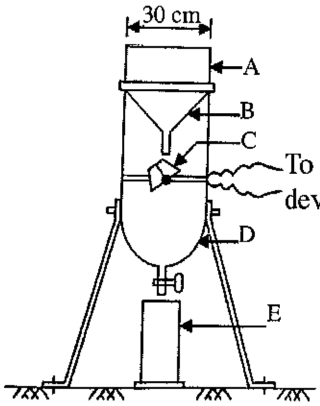
6. An example for a climacteric fruit is,
(1) mango. (2) grapes. (3) orange. (4) pineapple. (5) dragon fruit.

7. During a health check-up of a particular person, his Body Mass Index (BMI) was found to be 22.3. The body condition of this person can be categorized as,
(1) pre-obesity. (2) underweight. (3) obesity class I.
(4) obesity class II. (5) normal weight.

8. A newly born calf should be fed with colostrum for,
(1) one day. (2) two days. (3) three days.
(4) four days. (5) five days.

9. The international organization having its headquarters in Sri Lanka is,
(1) World Trade Organization (WTO).
(2) World Health Organization (WHO).
(3) Food and Agriculture Organization (FAO).
(4) International Rice Research Institute (IRRI).
(5) International Water Management Institute (IWMI).

- Following is a line drawing of a recording type rain gauge used in a school weather station. Use this diagram to answer question No. **10**.




10. In above diagram, the tipping bucket is denoted by,
(1) A. (2) B. (3) C. (4) D. (5) E.

11. The products of mechanical/physical weathering of rocks and minerals would be,
(1) clays. (2) bed rock. (3) smaller particles.
(4) primary minerals. (5) humic substances.

12. It is important to manage the excessive water in agricultural fields through a proper drainage system. Drainage in crop fields,
(1) controls the weed propagation.
(2) reduces the pH value in the soil.
(3) increases the aerobic bacterial activity in the soil.
(4) increases the amount of plant nutrients in the soil.
(5) decreases the rate of organic matter decomposition in the soil.

13. Major internal factors affecting seed germination are,
(1) moisture and temperature.
(2) seed dormancy and moisture.
(3) temperature and seed dormancy.
(4) seed dormancy and seed viability.
(5) seed viability and relative humidity.



[See page three

**14.** Monocotyledonous plants cannot be propagated by conventional vegetative propagation methods because they
(1) do not branch.
(2) are perennials.
(3) have no uniform cambium.
(4) have a fibrous root system.
(5) do not contain required plant hormones.

**15.** In plant breeding, the most common method of inducing polyploidy in plants is,
(1) use of Ethylene.
(2) use of Colchicine.
(3) use of mutagenic chemicals.
(4) exposure to ionizing irradiation.
(5) exposure to non-ionizing irradiation.

**16.** The most important soil environmental conditions that should be controlled in Controlled Environment Agriculture would be,
(1) soil pH, soil colour and soil depth.
(2) soil moisture, soil pH and soil colour.
(3) soil aeration, soil moisture and soil pH.
(4) soil pH, soil colour and soil temperature.
(5) soil aeration, soil depth and soil temperature.

**17.** In his home garden, a student observed an insect having following characteristics.
- Two pairs of wings.
- 2/3 of the fore wing is leathery while the tip is membranous.
- Hind wings are completely membranous.

The order of this insect would be,
(1) Hemiptera. (2) Coleoptera. (3) Homoptera.
(4) Orthoptera. (5) Thysanoptera.

**18.** The part of the knapsack sprayer that controls the pesticide flowing from the tank is,
(1) lance. (2) nozzle. (3) plunger rod.
(4) check valve. (5) cut-off valve.

**19.** Micronutrients consist in food are,
(1) water and minerals only.
(2) water and vitamins only.
(3) vitamins and minerals only.
(4) micro minerals and trace minerals only.
(5) fat-soluble and water-soluble vitamins only.

**20.** The instruments commonly used to measure maturity indices of fruits are,
(1) ruler, pH meter and brix meter.
(2) ruler, firmness tester and pH meter.
(3) firmness tester, pH meter and brix meter.
(4) weighing balance, brix meter and pH meter.
(5) firmness tester, ruler and weighing balance.

**21.** Average fat content of Friesian cow milk is,
(1) 2.5%. (2) 3.5%. (3) 4.5%. (4) 5.5%. (5) 6.5%.

[*See page four*

**22.** A person who works in a factory experiences extreme tiredness, headache and blur vision at the end of the day. The reason for this condition may be,

(1) his working environment is with lots of noise.
(2) he is working in a dusty environment inside the factory.
(3) he was exposed to extreme temperature in his working place.
(4) he is working with the vibrating machine the whole day.
(5) he doesn't consume adequate water while working in the factory.

**23.** A procedure that is followed in conservation agriculture for the nutrient conservation in an agricultural field would be,

(1) practice contour farming.
(2) use zero tillage in the field.
(3) add more fertilizer to the field.
(4) add organic materials to the field.
(5) introduce integrated pest management to the field.

**24.** Before commencing a hotel complex within the coastal zone, approval for the Environmental Impact Assessment Report should be obtained from,

(1) Coast Conservation Department.
(2) Department of Tourism.
(3) Ministry of Environment.
(4) Central Environmental Authority.
(5) Department of Forest Conservation.

**25.** A farmer observed that when he cultivates spinach in June, plants flower early compare to the spinach cultivated in December. This is mainly because spinach

(1) is a long day plant.
(2) is a short day plant.
(3) delays flowering in cooler climates.
(4) flowers early when light intensity is high.
(5) delays flowering under cloudy conditions.

**26.** Weathering of rocks and minerals would be intensified under,

(1) temperate climate.
(2) cold and dry climate.
(3) cold and rainy climate.
(4) warm and dry climate.
(5) warm and rainy climate.

**27.** If the evapotranspiration rate of a crop field is 7.5 mm/day and the moisture content in the soil at filed capacity is 84 mm, the most suitable irrigation interval for this crop field would be,

(1) 5 days. (2) 6 days. (3) 7 days. (4) 8 days. (5) 9 days.

**28.** One of the **disadvantages** of traditional water lifting methods is that,

(1) they are labour intensive.
(2) their initial capital investment is high.
(3) they can be used only for selected crops.
(4) their usage depends on the quality of water.
(5) they are heavily depend on non-renewable energy sources.

[*See page five*

**29.** In a particular cultivation technique, a very shallow stream of water containing all the dissolved nutrients required for plant growth is re-circulated passing the bare roots of plants in a watertight gully. This technique is best explained as,
(1) floating technique.
(2) deep flow technique.
(3) root dipping technique.
(4) nutrient film technique.
(5) capillary action technique.

**30.** An insect pest incidence in a crop field can easily be developed into epidemic level,
(1) if proper weeding is not done.
(2) when a mono crop is cultivated.
(3) when natural equilibrium is maintained.
(4) if only traditional varieties are cultivated.
(5) if natural enemies are available in the field.

**31.** Of the following statements, the correct statement regarding the selection of a suitable scion for grafting would be,
(1) scion should always be compatible with stock plant.
(2) the best time to take a scion is the shooting stage of the plant.
(3) scion should always be selected from the same species of the stock plant.
(4) scion should be taken from the mother plant before it reaches the maturity.
(5) scion should be selected from a mother plant having high resistance to soil-born diseases.

**32.** Pre-emergent herbicides are generally used,
(1) before land preparation.
(2) to kill already established weed plants.
(3) to destroy the weed seeds found in the crop field.
(4) only after the establishment of the crop in the field.
(5) to prevent germinated weed seedling from becoming established.

**33.** Kurunegala District has a high potential for animal husbandry. The type of animal husbandry that has the highest potential in this area would be,
(1) extensive goat farming.
(2) intensive cattle farming.
(3) extensive cattle farming.
(4) intensive poultry farming.
(5) extensive poultry farming.

**34.** The correct statement about a compacted or hardened soil is that,
(1) bulk density and porosity will be low.
(2) true density and porosity will be low.
(3) bulk density and true density will be high.
(4) porosity and water holding capacity will be low.
(5) bulk density and water holding capacity will be low.

**35.** Following are two statements related to the soil air.

A - Composition of soil air is different from the composition of atmospheric air.

B - Soil air is important for root growth and activity of microorganisms.

Of the above statements
(1) both A and B are correct.
(2) A is correct but B is incorrect.
(3) B is correct but A is incorrect.
(4) A is correct and it is further explained by B.
(5) B is correct and it is further explained by A.



[See page six

**36.** A free-living bacteria in soil that fixes nitrogen under aerobic condition is,
(1) *Azolla.* (2) *Anobaena.* (3) *Aspergillus.*
(4) *Azotobacter.* (5) *Azospirillum.*

**37.** Following are three statements related to the fertilizer use efficiency.
A - The availability of plant nutrients in soil, for absorption by plants, is affected by soil pH.
B - Fertilizer use efficiency can be increased by site specific fertilizer application.
C - Fertilizer use efficiency increases when the soil moisture level increases from field capacity to saturation level.
Of the above, the correct statement/s would be,
(1) A only. (2) B only. (3) C only.
(4) A and B only. (5) A and C only.

**38.** An element is to be considered as an essential nutrient when,
A - a plant cannot complete its life cycle without that element.
B - it is indirectly involved in the metabolic process of the plant.
C - the action of the element is specific, where no other element being able to substitute for it.
Of the above, the correct statement/s would be,
(1) A only. (2) B only. (3) A and B only.
(4) A and C only. (5) B and C only.

**39.** Following are some statements regarding propagation of plants through seeds.
A - Seedlings take a longer time to become a mature plant.
B - Impossible to obtain genetic uniformity.
C - Seeds are not available throughout the year.
Of the above, the correct statement/s would be,
(1) A only. (2) B only. (3) C only.
(4) A and B only. (5) A and C only.

**40.** A commonly used chemical for surface sterilization of an ex-plant is,
(1) sulfuric acid ($H_2SO_4$).
(2) hydrochloric acid (HCl).
(3) clorox (sodium hypochlorite)
(4) caustic soda (sodium hydroxide)
(5) caustic potash (potassium hydroxide).

**41.** The worst combination of climatic factors that can reduce the egg production of hens in an ordinary deep litter house would be,
(1) heavy rains and wind.
(2) hot and windy climate.
(3) alternative cold and hot climate.
(4) continuous hot and humid climate.
(5) short day length and intermittent hot climate.

**42.** Few examples for concentrate feeds are,
(1) soybean meal, fish meal and maize silage.
(2) coconut poonac, maize grains and rice bran.
(3) fresh grass, maize silage and coconut poonac.
(4) maize grains, ground dried grass and chopped hay.
(5) rice bran, wheat bran and chopped sugar cane tops.

[*See page seven*

**43.** Following are some statements regarding poultry keeping.

A - Broiler birds are usually reared intensively.

B - Natural hatching of eggs is more successful than artificial hatching.

C - Compared to grower feed, layer feed should contain more protein.

D - In order to produce eggs, a commercial layer farm should have both hens and cockerels.

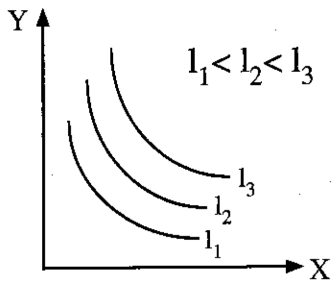
Of the above, the correct statement/s would be,

(1) A and B only. (2) A and C only. (3) B and C only.
(4) B and D only. (5) C and D only.

**44.** A farmer having 100 cows, instructed his milkers to complete the milking of each and every cow within 6 minutes after commencing milking. The most valid reason for the above instruction is,

(1) to have sufficient time to milk all the cows.
(2) to avoid any stress to cows due to milking for a longer time.
(3) that prolactin secretion stops in 6 minutes after stimulation.
(4) to reduce contamination of milk due to longer exposure time.
(5) that oxytocin hormone is active only for 6 minutes after secretion.

- Use the following graph to answer question no. **45.**




**45.** In the above graph, X and Y would be, respectively

(1) bread and buns.
(2) labour and capital.
(3) production and cost.
(4) bread and buns or labour and capital.
(5) labour and capital or production and cost.

**46.** In general, demand curves are downward-sloping since each additional unit of a good is put towards a less usable value. This phenomenon can be best explained by,

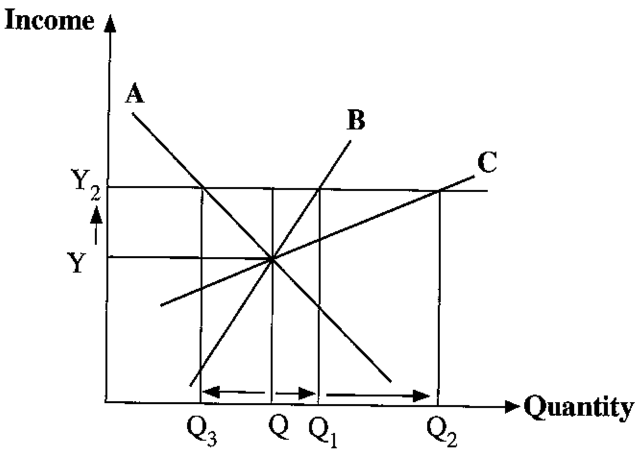
(1) the law of supply.
(2) the law of demand.
(3) the law of diminishing productivity.
(4) the law of diminishing marginal utility.
(5) the law of increasing opportunity cost.

**47.** A newspaper reports, "Seed Monopoly Broken into Several Competing Firms." If this statement is true, it is expected that the seed producing industry to,

(1) increase both output and price.
(2) decrease both output and price.
(3) increase output and decrease price.
(4) decrease output and increase price.
(5) increase the output without changing the price.

[*See page eight*

• Use following graph to answer question no. **48.**




**48.** In the above graph, the demand curves A, B and C represent,
(1) luxury good, inferior good and normal good respectively.
(2) inferior good, luxury good and normal good respectively.
(3) inferior good, normal good and luxury good respectively.
(4) normal good, inferior good and luxury good respectively.
(5) luxury good, normal good and inferior good respectively.

**49.** The price of goods would be the key factor when competing in,
(1) duopoly.
(2) oligopoly.
(3) monopoly.
(4) perfect competition.
(5) monopolistic competition.

**50.** The following are statements regarding the rainfed agriculture.
A - High risk and uncertainty due to unavailability of irrigation water.
B - Low input method that can be used with very low capital investment.
C - Use the rainfall as the water supply and therefore no requirement for irrigation.

Of the above, the correct statement/s would be,
(1) A only.
(2) A and B only.
(3) A and C only.
(4) B and C only.
(5) All A, B and C.

* * *

**ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව**
**இலங்கைப் பரீட்சைத் திணைக்களம்**
**Department of Examinations, Sri Lanka**

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

කෘෂි විද්‍යාව II
விவசாய விஞ்ஞானம் II
**Agricultural Science II**

**08 E II**

පැය තුනයි
மூன்று மணித்தியாலம்
***Three hours***

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மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
**Additional Reading Time - 10 minutes**

**Use additional reading time to go through the question paper, select the questions you will answer and decide which of them you will prioritise.**

**Index No. :** ......................................

## Instructions:

* *This question paper consists of* **10** *questions in* **09** *pages.*
* *This question paper comprises Part* **A** *and Part* **B.** *The time allotted for* ***both parts*** *is* ***three hours.***

**PART A — Structured Essay (Pages 2 - 8)**

* *Answer* ***all*** *questions* ***on this paper itself.***
* *Write your answers in the space provided for each question. Note that the space provided is sufficient for your answers and extensive answers are* ***not*** *expected.*

**PART B — Essay (Page 9)**

* *Answer* ***four*** *questions only. Use the papers supplied for this purpose. At the end of the time allotted for this paper, tie the two parts together so that Part* **A** *is on the top of Part* **B** *before handing over to the supervisor.*
* *You are permitted to remove only Part* **B** *of the question paper from the Examination Hall.*

**For Examiners' Use only**

| (08) Agricultural Science - II | | |
|---|---|---|
| **Part** | **Question No.** | **Marks** |
| A | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| B | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
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| In Numbers | |
| In Letters | |

| | Code Numbers |
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| Marking Examiner 1 | |
| Marking Examiner 2 | |
| Marks checked by | |
| Supervised by | |

[see page two

## Part A - Structured Essay

*Answer **all** questions on this paper itself.*
*(Each question carries **100** marks.)*

Do not write in this column

1. (A) Agro-Ecological Zones in Sri Lanka are symbolized with two English capital letters, a digit and sometimes with simple letters. State the meanings of the symbols of Agro-Ecological Zone $WL_{2b}$.

(i) W ....................................................................................................

(ii) L ....................................................................................................

(iii) 2 ....................................................................................................

(iv) b ....................................................................................................

(B) Both mineral matter and organic matter found in soil play a vital role in plant growth.

(i) (a) State **two** importances of mineral matter for crop growth.

(1) ....................................................................................................

(2) ....................................................................................................

(b) State **two** importances of organic matter for crop growth.

(1) ....................................................................................................

(2) ....................................................................................................

(ii) Soil organisms are highly important component in agricultural soils.

(a) Name **two** soil organisms that are important in agriculture.

(1) ....................................................................................................

(2) ....................................................................................................

(b) State **two** functions of soil organisms that are beneficial for crop production.

(1) ....................................................................................................

(2) ....................................................................................................

(C) Plant nutrients that are dissolved in soil water are absorbed to plants mainly through root hairs.

(i) State **two** types of absorption of nutrients by plants.

(1) ....................................................................................................

(2) ....................................................................................................

(ii) State **two** importances of phosphorus in plant growth.

(1) ....................................................................................................

(2) ....................................................................................................

(iii) State **two** importances of potassium in plant growth.

(1) ....................................................................................................

(2) ....................................................................................................

[see page three

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0487

(D) Method of crop establishment in the field mainly depends on the type of crop. State the **two** main methods of crop establishment with an example of a crop suitable for each method.

| | **Method of crop Establishment** | **Crop** |
|---|---|---|
| (i) | .............................................................. | ...................................... |
| (ii) | .............................................................. | ...................................... |

(E) Kandyan home gardens are commonly found in mid-country areas of Sri Lanka, predominantly in Kandy District.

(i) Name **two** main features of Kandyan home gardens.

(a) ..............................................................................................

(b) ..............................................................................................

(ii) State **two** environmental benefits of Kandyan home gardens.

(a) ..............................................................................................

(b) ..............................................................................................

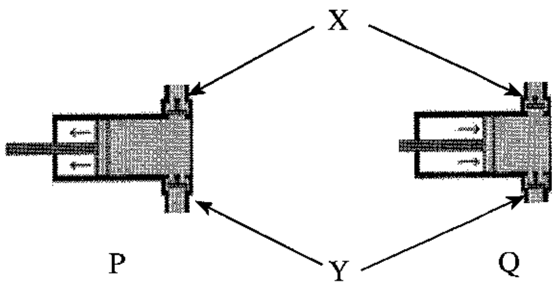
(F) Present agricultural practices have created many environmental issues which are detrimental to the sustainable development. State **two** agricultural practices that contribute to climate change.

(i) ..............................................................................................

(ii) ..............................................................................................

100

2. (A) Two line drawings illustrating the function of a particular type of water pump are given below as P and Q. Use these diagrams to answer questions (i) to (iv).




(i) Name the type of the water pump shown in above diagrams.

..............................................................................................

(ii) State the line drawing that shows the following strokes.

(a) Compression stroke ..............................................................

(b) Suction stroke ..............................................................

(iii) Name the pipe lines illustrated by X and Y.

(a) X ..............................................................................

(b) Y ..............................................................................

(iv) State **one** main disadvantage of this type of water pumps.

..............................................................................................

[see page four

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(B) Plant growth regulators (PGRs) are chemicals used to modify plant growth. State **four** plant growth regulators commonly used in agriculture with their use.

| | **Plant growth regulator** | **Use** |
|---|---|---|
| (i) | ........................................ | ........................................ |
| (ii) | ........................................ | ........................................ |
| (iii) | ........................................ | ........................................ |
| (iv) | ........................................ | ........................................ |

(C) Plant propagation is the process of creating new plants by means of sexual or asexual techniques.

(i) State the most suitable vegetative propagation method for each of following crops.

(a) Rambutan ..........................................................................

(b) Sweet orange ..........................................................................

(c) Avocado ..........................................................................

(d) Lime ..........................................................................

(e) Jasmin ..........................................................................

(ii) State the principle behind rooting of a layer.

..........................................................................................

..........................................................................................

..........................................................................................

..........................................................................................

(iii) State **two** main advantages of layering compared to cuttings.

(a) ..........................................................................................

(b) ..........................................................................................

(D) Growing crops in protected houses by controlling environmental factors is important to safeguard the food security under the climate change conditions. Name the environmental factor that can be controlled by using each of the following protected structures.

(a) Row cover ..........................................................................

(b) Solar propagator ..........................................................................

(c) Shade house ..........................................................................

(d) Polytunnel ..........................................................................

(E) Soilless culture has become popular among young home gardeners, specially in urban areas. State **two** common growing media used in soilless culture.

(i) ..........................................................................................

(ii) ..........................................................................................

100

[see page five

Do not write in this column

3. (A) Wherever in the world the agriculture has been practiced, weeds, pests and diseases have damaged the agricultural production.

(i) Name the type of metamorphosis, type of mouth parts and an example of an insect for each insect order given below.

| Order | Type of Metamorphosis | Type of mouth parts | Example |
|---|---|---|---|
| (a) Lepidoptera | ..................... | ..................... | ..................... |
| (b) Homoptera | ..................... | ..................... | ..................... |
| (c) Diptera | ..................... | ..................... | ..................... |
| (d) Coleoptera | ..................... | ..................... | ..................... |

(ii) State **three** safety measures that should be followed after pesticide application.

(1) ..........................................................................................................

(2) ..........................................................................................................

(3) ..........................................................................................................

(iii) A weed is a plant growing where it is not wanted or in competition with cultivated plants. State **three** physical or mechanical methods used in weed management.

(1) ..........................................................................................................

(2) ..........................................................................................................

(3) ..........................................................................................................

(B) Followings are few of the main parts of digestive tract of poultry.

**Large intestine, Proventiculus and Gizzard**

Match the above parts of poultry digestive tract with the following parts of the cattle digestive tract that are having similar major functions.

| Parts of the cattle digestive tract | Parts of the poultry digestive tract |
|---|---|
| (i) Mouth | ..................................................... |
| (ii) Rumen | ..................................................... |
| (iii) Abomasum | ..................................................... |

(C) Compositions of three groups of feedstuffs stated as P, Q and R are given below.

| Group of feedstuffs | Crude fibre % | Crude protein % | Dry matter % |
|---|---|---|---|
| P | 22 | 4 | 30 |
| Q | 8 | 65 | 88 |
| R | 80 | 20 | 90 |

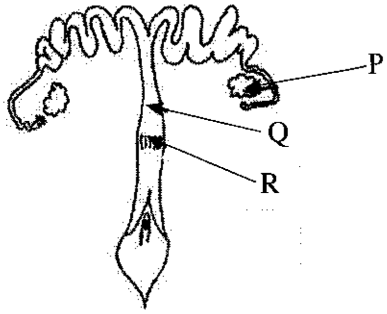
Using the above information, state the most relevant feedstuff group for each of the following animal feeds type.

| Type of Animal feed | Feedstuff group |
|---|---|
| (i) Mature grass | ..................................................... |
| (ii) Fish meal | ..................................................... |
| (iii) Hay | ..................................................... |

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(D) A diagram of the reproductive system of a cow is given below. Use this diagram to answer question (i) to (iii).




Name the parts labelled as P, Q and R in the above diagram.

| **Part of the reproductive track** | | **Name of the part** |
|---|---|---|
| (i) | P | ................................................ |
| (ii) | Q | ................................................ |
| (iii) | R | ................................................ |

(E) Indicate whether the following statements are **True** or **False**.

| | **Statement** | **True/False** |
|---|---|---|
| (i) | Inbreeding is essential to maintain a pure breed. | .................... |
| (ii) | Cattle can be easily upgraded by a suitable cross breeding program. | .................... |

(F) Hybrids are generally found to be superior to their parents.

(i) Define 'Hybrid variety'.

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(ii) State why hybrids are superior to their parents.

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(G) Extreme noise and vibration in agricultural machinery have created health hazards to the farmers. State **two** strategies that can be used to minimize the noise and vibration of agricultural machinery.

(i) ................................................................................................

(ii) ................................................................................................

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4. (A) Freezing is one of the most widely used methods of food preservation.

(i) State **two** factors that are controlled by freezing to maintain the quality and improve the shelf life of food.

(1) ..............................................................................................

(2) ..............................................................................................

(ii) State **two** pre-freezing steps that are needed to be followed in freezing foods.

(1) ..............................................................................................

(2) ..............................................................................................

(B) Post harvest losses of food crops depend on environmental, physiological, biological, and physical factors.

(i) Name **two** environmental factors that affect post harvest losses of food crops.

(1) ..............................................................................................

(2) ..............................................................................................

(ii) Name **one** physiological or biological activity that affects post harvest losses of food crops.

..............................................................................................

(iii) Name **one** physical factor that affects post harvest losses of food crops.

..............................................................................................

(C) Recently, government of Sri Lanka imposed restrictons on the use of chemical fertilizers and pesticides. State **two** positive impacts of the above decision that could happen on Sri Lankan economy.

(i) ..............................................................................................

(ii) ..............................................................................................

(D) According to the competition in market, several market structures can be seen. Identifying the different market structures, fill in the blanks in the following table.

| | (i) ..................... | **Monopolistic Competition** | **Oligopoly** | **Monopoly** |
|---|---|---|---|---|
| **Firms** | (ii) ..................... | Large Number | Small Number | (iii) ............... |
| **Nature of products** | Identical | (iv) ............... | Similar Differentiated | No close substitutes |
| **Barriers to entry and exit** | No barriers | Freedom of entry and exit | (v) ............ | Effective barriers to entry |
| **Controlling of market price by the producer** | (vi) ..................... | Small control | Substantial control | Significant control |

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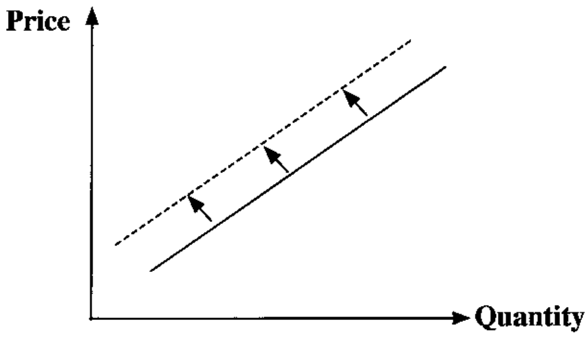
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(E) Market supply of goods depends on various factors.

(i) State whether the supply of a particular good increases or decreases with following activities.

| Activity | Supply Increases/Decreases |
|---|---|
| (a) Providing subsidies | ............................................. |
| (b) Increasing the cost of production | ............................................. |
| (c) Imposing taxes | ............................................. |
| (d) Increase the price of the good | ............................................. |
| (e) Introduce new technology | ............................................. |

(ii) The following graph illustrate the shifting of the supply curve. Use this graph to answer the below mentioned question.




State **two** reasons for the shifting of the supply curve as illustrated in the above graph.

(1) ..........................................................................................................

(2) ..........................................................................................................

(iii) What is meant by 'supply elasticity'?

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கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

කෘෂි විද්‍යාව II
விவசாய விஞ்ஞானம் II
**Agricultural Science II**

**08 E II**

## Part B - Essay

**Instructions:**

- *Answer **four** questions only.*
- *Give clearly labelled diagrams where necessary.*
  *(Each question carries **150** marks.)*

**5.** (i) Describe the benefits of growing crops in soilless media.

(ii) Explain the process of certified seed production.

(iii) Explain the physical changes happen in soils due to land preparation.

**6.** (i) Describe the factors to be considered in selecting a suitable site for an agro meteorological unit.

(ii) Describe the way of different bio control agents are used in pest management.

(iii) Explain the major steps of micro-propagation.

**7.** (i) Explain impacts of soil erosion caused by water on soil productivity.

(ii) Describe the methods for enhancing groundwater recharge in an agricultural land.

(iii) Describe various measures that can be used to prevent diseases in farm animals.

**8.** (i) Describe the adverse effects of the Green Revolution on the agricultural activities in Sri Lanka.

(ii) Explain the importance of grading of fruits and vegetables after harvesting.

(iii) With the help of a clearly labelled diagram, explain the process of milk let down of a cow.

**9.** (i) Explain the relation between the availability of nutrients in soil and plant growth.

(ii) Describe the problems caused by improper use of chemical fertilizers in crop fields.

(iii) Explain the principle of freeze drying and state its applications.

**10.** (i) Describe the importance of the use of organic matter to improve the fertility and biodiversity in soils.

(ii) Explain the importance of value chain analysis to improve the productivity in agricultural sector.

(iii) Describe why vegetable farmers in Sri Lanka are more inclined to use imported seeds.

* * *